

ABSTRACT OF THE DISCLOSURE

A system and method for transferring data over an external transmission medium. A host computer is coupled to a device through a serial bus, such as an IEEE 1394 bus.

5 A transfer object is configurable to encapsulate data transfer-related functionality, providing a generic interface for transmission of data over a variety of external transmission media and protocols. The transfer object includes transfer information describing the kind of data transfer of a particular request, a request block object which encapsulates OS- and protocol/bus-dependent data related to the transfer, various callback

10 functions, and a link to another transfer object for chaining transfer objects together sequentially. A toolbox encapsulating inter-driver communication functions is accessed by the transfer object to navigate through layers of driver software between the application and bus hardware. A user makes one or more transfer requests. Transfer objects corresponding to each request are built and linked together to form a sequential

15 chain. The requests of the transfer objects are executed sequentially. If the current transfer object is the first in the chain, the request is executed on a current thread at passive level or higher, otherwise the request is executed on a system (kernel) thread at dispatch level. When a response to the request returns, control is returned to the current transfer object. The current transfer object may execute a callback function to complete

20 the transaction and set an event indicating completion of the request. A user callback function may be executed. The process is repeated until all transfer objects are processed.